INTERNATIONAL SEARCH REPORT

IB2004/050816

A. CLASSIFI IPC 7	a. classification of subject matter IPC 7 H01J31/12							
According to International Patent Classification (IPC) or to both national classification and IPC								
B. FIELDS S								
Minimum documentation searched (classification system followed by classification symbols) IPC $7 - H01J$								
110 /								
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched								
Electronic data base consulted during the international search (name of data base and, where practical, search terms used)								
EPO-Int	ternal, PAJ, WPI Data							
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C. DOCUME	ENTS CONSIDERED TO BE RELEVANT							
Category °	Citation of document, with indication, where appropriate, of the relev	ant passages	Relevant to claim No.					
			1 7					
X	US 4 703 231 A (NISHIDA JUN ET AL 27 October 1987 (1987-10-27)	.)	1,7					
Α	column 6, lines 1-45; figure 5		2-6,8,9					
	UC C 411 000 D1 (DODINGED DONALD (NADI EC	1-9					
Α	US 6 411 020 B1 (ROBINDER RONALD (ET AL) 25 June 2002 (2002-06-25)	MAKLES	1-9					
	claim 1; figure 10							
Α	US 5 189 335 A (SEKIHARA TOSHINOBU	I FT AL)	1-9					
1	23 February 1993 (1993-02-23)							
·	cited in the application							
	columns 3-4, lines 60-12; figure 2	2						
1								
1								
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—	they deguments are listed in the continuation of hex C	Patent family members are listed in	n annex.					
 Special categories of cited documents: "T" later document published after the international filing date or priority date and not in conflict with the application but 								
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E earlier document but published on or after the international filing date *X* document of particular relevance; the claimed invention cannot be considered to								
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"O" docur	citation or other special reason (as specified) "O" document referring to an oral disclosure, use, exhibition or cannot be considered to involve an inventive step when the document is combined with one or more other such document is combined with one or more other such document.							
'P' docum	r means nent published prior to the international filing date but the published by the colored	in the art. *& document member of the same patent						
	than the priority date claimed	Date of mailing of the international sea						
	26 October 2004	05/11/2004						
Name and	i malling address of the ISA	Authorized officer						
	European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk							
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INTERNATIONAL SEARCH REPORT

IB2004/050816

Patent document cited in search report	Publication date		Patent family member(s)	Publication date
US 4703231 A	27-10-1987	JP JP JP JP JP JP JP JP	1751799 C 4033195 B 61202592 A 61010836 A 1740890 C 4025662 B 61024131 A 2021511 C 7034356 B 61107638 A 61107639 A 4752721 A	08-04-1993 02-06-1992 08-09-1986 18-01-1986 15-03-1993 01-05-1992 01-02-1986 19-02-1996 12-04-1995 26-05-1986 21-06-1988
US 6411020	25-06-2002	US US US CA CN EP JP WO	6441543 B1 2002060517 A1 2004017140 A1 2319395 A1 1295717 T 1057198 A1 2002502092 T 9939361 A1	27-08-2002 23-05-2002 29-01-2004 05-08-1999 16-05-2001 06-12-2000 22-01-2002 05-08-1999
US 5189335	A 23-02-1993	JP JP KR	2830190 B2 3134942 A 9307368 B1	02-12-1998 07-06-1991 09-08-1993